Time Domain Corporation
Experimental STA Request
September 25, 2002
File No. 0358-EX-ST-2001

Exhibit 1
Signal Description

This request seeks authority to demonstrate prototype equipment that uses the "time modulated" ultra wideband (UWB) technology developed by Time Domain Corporation ("Time Domain"). The devices to be demonstrated are:

Device to be Operated	Language
PAD	PulsON™ Application Demonstrator (PAD), which is a laboratory evaluation device only and is not to be marketed. The PAD will use an omni-directional Time Domain Diamond dipole antenna. Note that this antenna has virtually no gain across the spectrum of the transmitted signal, unlike a classic reference dipole designed for narrowband operation
SoldierVision/ RadarVision	SoldierVision/RadarVision™ generates a signal that is unmodulated in the sense that it does not convey information. The device is used to determine the presence of persons behind walls. It was the subject of a limited waiver granted by the Office of Engineering and Technology. See Letter of June 29, 1999, from Dale Hatfield, to David Hilliard, Counsel for Time Domain. See Exhibit 3 of this request. The position of the unmodulated pulse employed by the SoldierVision/ RadarVision™ is varied in time so as to produce a spectrum that approximates gaussian noise. If an emission designator were to be applied to this device, Time Domain believes that 2G00P0N would be descriptive of the signal. The nominal center frequency of the signal is 2.0 GHz. The radiated power is just above the Part 15 general limits. For the purpose of this STA, it should be specified as <-70 dBW/MHz. The total radiated power is 36 microwatts EIRP.
PulsON™ Transceiver	This request seeks authority to demonstrate prototype equipment that uses the "time modulated" ultra wideband (UWB) technology developed by Time Domain Corporation ("Time Domain"). The device to be exercised is a PulsON™ transceiver. If and when the device is certified under FCC Part

	15.517, Time Domain expects to sell the device as an engineering evaluation kit. The device was designed to comply with Part 15.517. Moreover, the design for the transmitter and antenna was directly derived from a device that has been certified by the FCC (FCC Identifier NUF-200-SGT-0702). We believe that the laboratory has determined that this other device has been determined to comply with 15.517. This device generates a signal that is pulse position modulated. The position of the modulated pulse employed by this device varies randomly in time so as to produce a spectrum that approximates gaussian noise. If an emission designator were to be applied to this device, Time Domain believes that 2G00P1D would be descriptive of the signal as modulated. If unmodulated for radar applications, the emission designator would be 2G00P0N. The nominal center frequency of the signal is 4.2 to 4.3 GHz. For the purpose of this STA, the field strength of the device should be specified as < 66 $dB_{\mu V}$/MHz (microvolts per megahertz) at 1 meter, using standard Part 15 Class B measurement techniques. The total power output from the transmitter is 50 microwatts. The radiated power of the device is 100 microwatts EIRP (61 microwatts ERP) or less. The transceiver will use an omni-directional Time Domain BroadSpect^{TM} dipole antenna. Note that the maximum of the antenna's gain has been incorporated into the measure field strength.